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Goyette

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[54] **ISOLATED COMPENSATED FLUID DELIVERY SYSTEM**

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[58] **Field of Search** 114/20.2, 317, 114/20.1; 222/95, 92

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[57] **ABSTRACT**

An isolated compensated fluid delivery system is used in an underwater vessel, such as a torpedo, to deliver a supply fluid such as fuel, while displacing the supply fluid with a compensating fluid to compensate for change in buoyancy of the underwater vessel. The buoyancy compensated fluid delivery system includes a container, such as a fuel tank, a flexible delivery chamber disposed within the container adjacent a flexible compensation chamber. An outlet is coupled to the flexible delivery chamber and extends outside the container to direct the supply fluid out of the flexible delivery chamber. An inlet is coupled to the flexible compensation chamber and extends outside the container to direct the compensating fluid into the flexible compensation chamber as the supply fluid is being delivered. The volume of compensating fluid is substantially equivalent to the volume of supply fluid such that the weight and displacement of the underwater vessel remains substantially constant. The flexible delivery chamber and fluid compensation chamber both isolate the supply fluid and compensating fluid respectively from the inside of the container or fuel tank to prevent corrosion.

11 Claims, 2 Drawing Sheets